



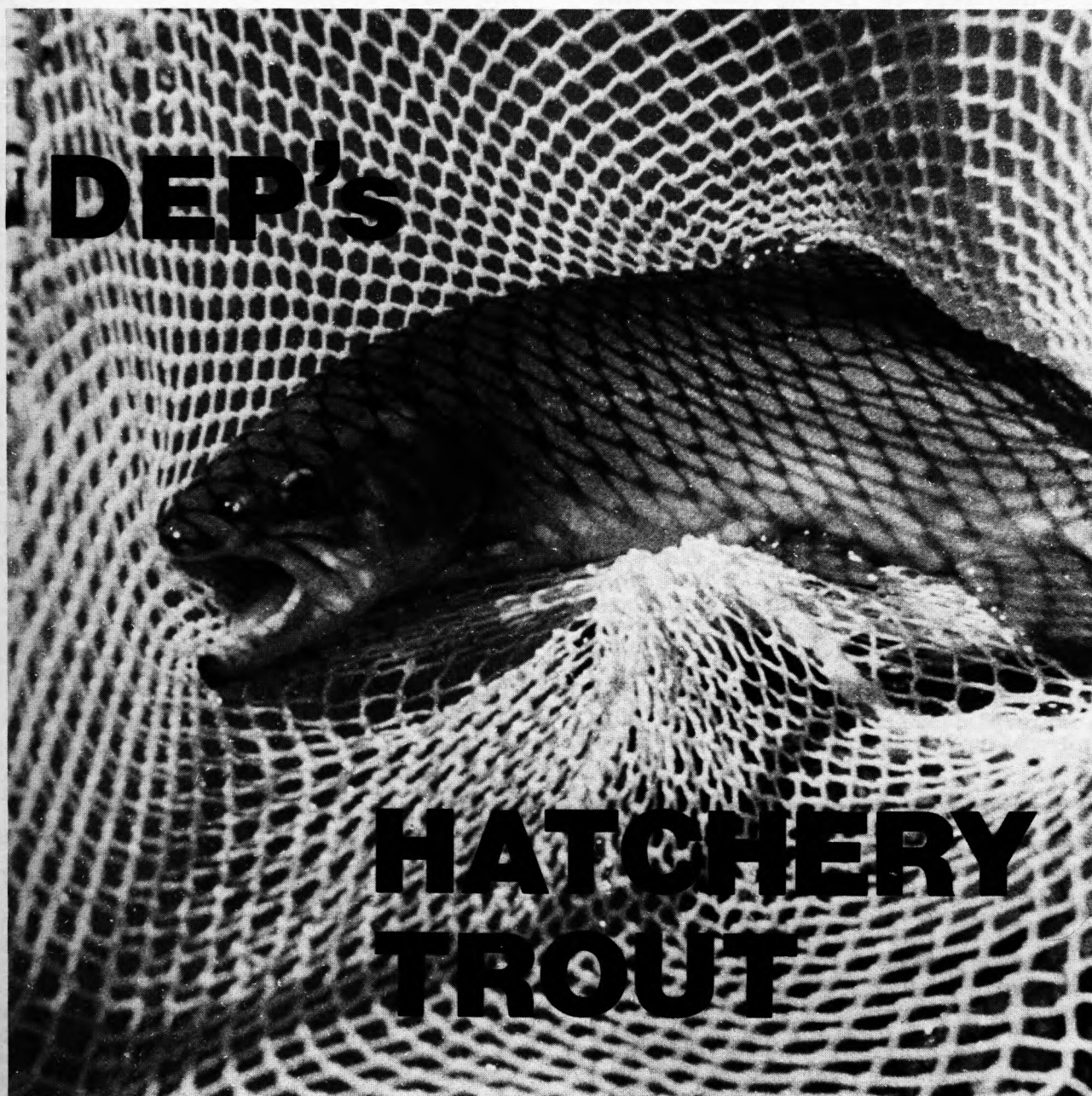
citizens' bulletin

Volume 4

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From the Editor's Desk

If you asked your friends and neighbors to explain the significance of April 16, 1977 many would probably say, "You're already one day late in filing your federal income tax return." Others, however, would know the real truth: It's the opening day of Connecticut's 1977 fishing season.

Sometime in the next six months one of every ten Nutmeggers will dust off the old fishing pole and venture out to try his angling luck in Connecticut's fresh waters. An estimated three hundred thousand anglers will set out in search of the many varieties of warm water fish species - bass, pickerel, perch, sunfish, etc. The state's 6,000 smaller lakes and ponds are conducive to the spawning of these species, and fishing is especially good during the warm summer months.

But among the vast fraternity of fishermen, there is a smaller contingent that fish solely for the elusive trout. Braving the probable subfreezing morning temperatures, these ardent anglers will line the river banks on April 16th in hopes of "limiting out"...or at least of catching one or two small ones. (DEP's Fish and Waterlife Unit estimates that 150,000 trout fishermen will creel an average 1.1 trout each on opening day.) Nearly all of these trout will be hatchery produced.

Farsighted citizens, sportsmen, and state officials were well aware of the plight of the trout as far back as 1899 when

the first state trout hatchery was built in Windsor Locks. Throughout this century as trout fishing pressures steadily increased, the state responded with additional physical plants and production programs. The Connecticut State Board of Fisheries and Game (1866-1971), whose functions are now incorporated into DEP, was instrumental in securing a sound future for fish resources in this state. The Board's efforts culminated in 1971 with the completion of the spacious and ultra modern Quinebaug Valley Hatchery in Plainfield.

It is a fact that our native trout population is miniscule. Except for unnamed smaller streams, the locations of which true fishermen guard jealously, Connecticut's waters do not support any sizable native trout fishery. Unfavorable conditions such as high water temperature and a lack of a sufficient number of small spawning streams combine to limit natural trout reproduction.

Today nearly 1 million brown, brook and rainbow trout are produced at the state's three hatcheries and are stocked in Connecticut's waters each year. That's not bad. Almost makes you want to patch those leaking waders, dig up a few garden worms and hang out the old shingle:



Thomas J. Turick

DEP Citizens' Bulletin

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* * * *

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Look this month and every month for "Woodsy Hoots" in the Bulletin. Woodsy appears courtesy of the U. S. Forest Service.



Burlington...Kensington...Quinebaug

The prospect of a day in the fresh air, admiring the early morning sunlight on a meandering stream, and catching a fat silvery trout, or two, attracts tens of thousands of anglers to try their skills every spring.

Connecticut's waters abound with warm water species, such as bass, pickerel, bullheads, yellow perch and sunfishes. But to many anglers, nothing beats fishing for trout. There are more than 200,000 licensed fishermen in the state, another 125,000 or more unlicensed juvenile anglers; and these numbers are increasing at the rate of five percent a year.



Natural reproduction simply cannot supply the numbers of trout needed to satisfy the growing demand. The state's trout hatchery system helps meet that demand.

The system consists of two hatcheries built in the 1920's and 1930's, and one modern hatchery completed in the early 1970's. Approximately 90 percent of the trout stocked in the state are reared in these hatcheries. The remaining 10 percent are supplied by the U.S. Fish and Wildlife Service from the federal hatchery system. For many years, until the opening of the Quinebaug Valley Hatchery in 1971, the department purchased up to 50 percent of its fish from commercial growers.

Emphasis at the state hatcheries is on the rearing and distribution of 9- to 12-inch brook trout, brown trout and rainbow trout. Other species, such as kokanee, Atlantic salmon and sea trout, are also reared

at these installations. Each hatchery is staffed by a hatchery manager and a crew of trained and experienced fish culturists.

Burlington Hatchery

Established in 1923, the Burlington Hatchery was, until 1971, the department's largest trout growing facility. Its current annual production is from 125,000 to 150,000 catchable-sized trout, most of which are 9- to 12-inch browns and rainbows. Approximately 50,000 brook trout in the six- to eight-inch class are also raised annually for stocking smaller streams.

Other activities at Burlington include the rearing of sea trout smolts (sea run brown trout) for distribution in coastal streams and Atlantic salmon smolts for distribution in the Connecticut River and its major tributaries. Kokanee (land-locked sockeye salmon) fry are raised from eggs taken from mature fish at East Twin Lake, Salisbury, and stocked in suitable lakes. This effort, involving the rearing and stocking of 200,000 to 300,000 fry annually, has resulted in the establishment of respectable kokanee fisheries in several Connecticut lakes.

Water, the key to any fish hatchery operation, is supplied at Burlington from numerous springs and Hatchery Brook. Recent test borings have shown there are no possibilities of securing additional water at this installation. Future expansion or increased production will not be possible unless research on water reuse systems develops less expensive methods of cooling and reconditioning water.



A lone visitor in winter views the pools at the Burlington Hatchery. The main production building is in the background.

Kensington Hatchery

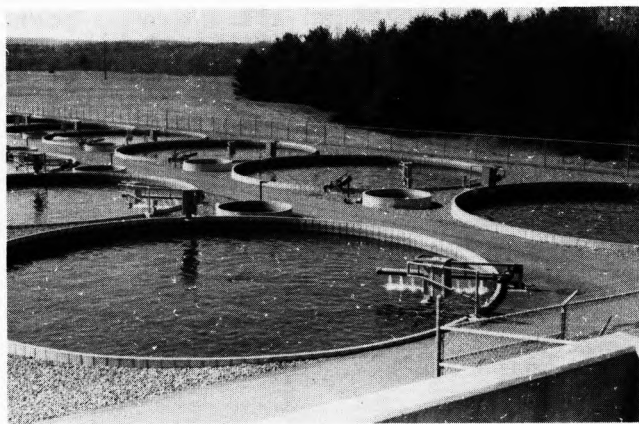
The Kensington Hatchery, established in 1930, was constructed by the department with Civilian Conservation Corps and Works Progress Administration assistance.

Annual production ranges from 85,000 to 100,000 9- to 12-inch brooks, browns and rainbows.

Until 1962 this hatchery operated entirely on gravity flow water provided by numerous springs. As the flow from these springs diminished, the need for a supplemental water supply became apparent.

A gravel-packed well was drilled for this purpose in 1962. By 1964 even this supply was insufficient to cope with the extended drought, and another well was drilled. Later, a third gravel-packed well was drilled, and these three wells now supply over 90 percent of the hatchery's water needs.

Prior to 1962 the Kensington Hatchery had an annual production of about 50,000 catchable fish. With the three wells it has been possible to nearly double production at this hatchery. Extensive test drilling has indicated that the maximum available groundwater supply is being utilized; and further expansion is excluded unless practical, inexpensive water reuse systems are developed.



Outside production pools at Quinebaug. Each pool is 50 feet wide and holds about 6,000 trout.

Quinebaug Valley Hatchery

The Quinebaug Valley Hatchery in Plainfield is the department's newest and largest hatchery. It is also one of the largest and most modern fish rearing facilities in the northeast.

This hatchery, completed in 1971, has an annual production of 500,000 9-to 12-inch brook, brown and rainbow trout, with a current maximum output of 600,000 fish.

The water supply for Quinebaug is supplied by seven large gravel-packed wells. Additional well sites are available to nearly double the present water supply of 6,300 gallons per minute. With additional wells and some modification of the hatchery, annual production can be increased when needed to approximately 1,000,000 catchable 9- to 12-inch trout.

Quinebaug was constructed with state funds and matching federal funds from the Bureau of Outdoor Recreation.

This new hatchery is unique because it has a special information and education section for the public with exhibits, several aquaria, viewing windows, special viewing ponds and a small auditorium. To minimize the possibility of introducing disease or disturbing the fish and reducing their growth, the public is not allowed access to the production areas of the hatchery.

New Fishing Regs.

Fisherman should be aware of a new change in fishing regulations on some Connecticut-Massachusetts border lakes.

On January 1, 1977, a new regulation went into effect in Massachusetts establishing a year-round open season on most waters. As a result of this change, Congamond Lakes (South Pond, Middle Pond and North Pond) in Suffield and Massachusetts and Hamilton Reservoir in Union and Massachusetts will remain open to fishing year-round to anyone holding a Connecticut or Massachusetts fishing license. The daily limit for trout is three per day from the effective date of the new regulation through April 15 and six trout per day thereafter.

The Colebrook Flood Control Pool in Colebrook and Massachusetts closed on February 28 and will reopen at 6:00 a.m. on April 16. The daily limit will remain five trout per day. This impoundment may also be fished on a Massachusetts or Connecticut fishing license.



Fishermen have provided about \$200,000,000 for fisheries research through a special tax on their equipment and annual revenues from this tax swell the total by about \$18 million each year. In addition, hunters and fishermen contribute over \$8 billion annually to the nation's economy.

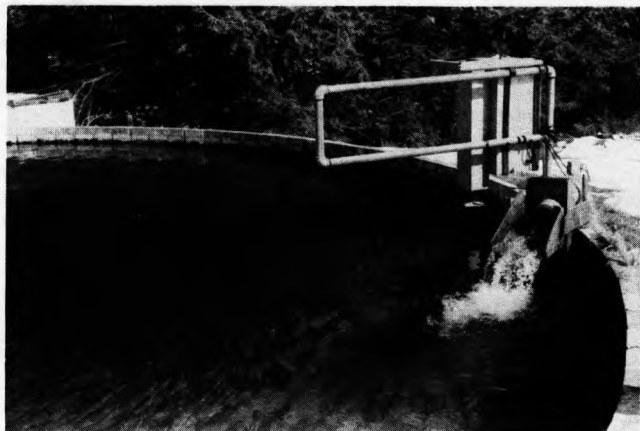
How To Raise A Million Trout !

The production of nearly three-quarters of a million 9 to 12 inch trout per year at the three state hatcheries is no easy job. While hatchery operations vary from installation to installation, the basic principles of hatching and rearing fish remain the same.

Trout eggs are obtained and fertilized by manually removing the eggs from the female and the milt (sperm) from the male and mixing the two together. Eggs and milt are obtained from large brood stock fish held at the Quinebaug Valley Hatchery which furnishes fertilized eggs to the other two hatcheries. The total annual take exceeds one million eggs.

Fertilized trout eggs are placed in incubators in later August or early September. While the eggs are in the incubators, they require very little care except for periodic treatment with malachite green or formalin to control fungus. This treatment consists of dripping the chemical fungicide into the water flowing through the incubators. The drip rate is preset to give the desired concentration of fungicide for a specific length of time.

Once the fertilized eggs have been placed in the incubators, they cannot be touched or disturbed for approximately 22 days. During this period, the eggs are in the critical stage, and any shock will kill the developing embryo. At the end of the critical stage, the eggs are said to be in the eyed stage, when the eyes of the developing fish are plainly visible through the eggshell. As soon as the eggs reach the eyed stage, they can be safely handled and can even be air shipped thousands of miles. They can be packed and shipped without water



Automatic feeders and water circulation system ensure healthy, vigorous trout.

simply by being kept cool and damp. During the eyed stage, all dead or unfertilized eggs are picked off, leaving only those eggs which will hatch. The eggs hatch 40 to 45 days after fertilization in a water temperature of 52 degrees.

Upon hatching, the small fish have a yolk sac attached to their abdomens. The young sac fry receive nourishment from this yolk sac for their first 25 to 30 days. A few days before the yolk sac is completely absorbed the fry are moved to small tanks within the main hatchery building. At this point in their lives, they receive their first food. The diet is a specially formulated high protein dry feed. The food given the fry is very fine, smaller than grains of sugar. Feeding is accomplished either by hand or by automatic feeders. Automatic feeders, which are in use at Burlington and Quinebaug, can be set to feed as often as every five minutes and are more efficient and economical than hand feeding.

At each stage of the trouts' growth, the size of the food particles and the quantity of food is increased. From the fry stage to the time of stocking, the fish are fed nine different sizes of feed ranging from the starter feed mentioned above to one-quarter inch pellets.

At hatching, the fry average from 5,000 to 8,000 per pound. After 16 to 20 weeks, at a size of approximately 500 per pound, they are transferred to larger outside pools. They remain in these pools for another 12 to 15 months. By this time, they have reached a length of 9 to 12 inches and are ready for stocking in the lakes, ponds and streams to provide many hours of quality sport for thousands of Connecticut anglers.



Quinebaug Valley Hatchery Manager Peter Vernesoni checks the fry at an indoor six foot rearing pool.

Visitors Welcome!

The Burlington and Kensington hatcheries are open to the public from 8:30 a.m. to 4:00 p.m. seven days a week. The Quinebaug Valley Hatchery is open between the hours of 10:00 a.m. and 4:00 p.m. seven days a week. Individuals and family groups are invited to visit the hatcheries to observe trout in various stages of growth and learn what is involved in raising these fish.

Larger groups wishing to visit the Burlington and Kensington hatcheries should contact the hatchery manager at least one week in advance of the anticipated visiting date so that a guided tour can be scheduled. Because so many groups wish to visit the Quinebaug Valley Hatchery, arrangements for a guided tour or lecture should be made at least two weeks in advance of the visiting date.

BURLINGTON HATCHERY

Manager: Joseph Holyst

Phone: 673-2340

Location: In Burlington, off Route 4, about midway between its intersection with Routes 179 and 72. Approximately 4 miles northwest of Unionville and 10 miles southeast of Torrington.

KENSINGTON HATCHERY

Manager: Michael Vernesoni

Phone: 828-5442

Location: Off Route 71 (Chamberlain Highway) in Berlin, about 3 miles north of Route 66 in Meriden and about 6 miles south of Route 72 in New Britain.

QUINEBAUG VALLEY HATCHERY

Manager: Peter Vernesoni

Phone: 564-7542

Location: End of Cady Lane off Route 14 about one-half mile west of the center of Central Village in Plainfield.

Trailside Botanizing

by G. Winston Carter



FALSE HELLEBORE
(*Veratrum viride*)

False Hellebore begins to develop early in March or April. As soon as the snow melts the young spear-like shoots start tunnelling to the surface. When the plant has unfolded its plaited leaves, it is difficult to realize it is the same plant.

This rather unusual looking member of the lily family may reach a height of eight feet. It has large, heavily ribbed leaves which are shorter at the top of the plant than towards the base. The star-shaped flowers mature any time from May to July, and appear in large clusters. At first they are yellow green in color, then they turn to a dull green, thus *viride*, the Latin word for "green." *Veratrum* is a Greek word meaning "truly black" and refers to the roots of the false hellebore.

It is common in cool swamps over most of North America and is usually found growing with skunk cabbage along brooks or streams. The leaves of these two plants are sometimes confused, although they do not look too much alike. However, as you will see from the following it is well to know the difference between the two. The skunk cabbage leaves, shoots and root stalks all may be cooked and eaten, but it is more of an emergency food than a delicacy. False Hellebore, on the other hand, is poisonous if any part of it is eaten. In spite of this man has been able to alter its chemical nature to produce a drug from the roots and base of the stem that is used in the treatment of high blood pressure.

This plant is sometimes called Indian Poke but it should not be confused with Pokeweed (*Phytolacca americana*) which is also poisonous in certain stages of its growth.

Stocking State Waters

by: Cole W. Wilde, Director
DEP Fish and Water Life Unit

While many Connecticut streams support small populations of wild trout most stream trout fishing in this state is supported by stocking hatchery reared fish. Connecticut lakes lack sizable inlet streams where trout can spawn successfully and as a result virtually all of the lakes in the state would be almost devoid of trout without a stocking program.

All trout, wild as well as hatchery produced, are relatively short-lived. Natural mortality is heavy, particularly over-winter stream mortality. Angling mortality, that is trout that are caught and removed from the fishery, is extremely heavy. In some waters anglers harvest up to 90 percent of the stocked fish. It is evident that angling mortality plus natural mortality leave few fish to hold over to a second or third season. Most of the large holdover fish that are taken each year come from the trout lakes. Natural mortality is somewhat lower in the lake environment than it is in a stream and the food supply is usually much larger allowing for rapid growth.

Connecticut's trout stocking starts the first of March. The trout lakes are stocked first, usually through the ice. At this time of year the surface waters directly under the ice are a degree or two above freezing. Hatchery water during this period is usually about 45°F or 7° Celsius. To avoid temperature shock from the sudden temperature change between the tank on the hatchery truck and the lake each bucket or container full of fish is gradually tempered by adding lake water to the hatchery water. The trout are then poured through a hole in the ice and into the environment they will occupy until some lucky angler catches them from the lake.

Each hatchery truck carries 600 to 700 gallons of water and about 1000 pounds of trout. Water is aerated by several methods. Some of the units add oxygen by pumping water out of the bottom of the tank and returning it to the tank as a fine spray at the water surface. The newer units use air pumps to introduce air into the water through air stones much as tropical fish fanciers do in their aquaria.

Pre-season lake stocking is usually completed in about two weeks. The smaller streams are stocked next usually involving another two weeks of effort. The larger more important trout streams are stocked in April immediately preceding the start of the fishing season which starts at 6:00 a.m. on



Stocking methods in 1935 were very similar to today's. Trout are hand transferred in buckets from oxygen truck to river. (DEP Photo)

the third Saturday in April. All trout waters open to the public are stocked before the season opens. Approximately 60 percent of the available trout are stocked pre-season to assure good early season fishing.

Brown trout comprise the major portion of the trout that are stocked. Past creel census work on various waters showed that brown trout provide the greatest return to creel, spread fishing success over the longest period and if not caught the year they are stocked have the greatest chance to survive to become large fish in subsequent years.

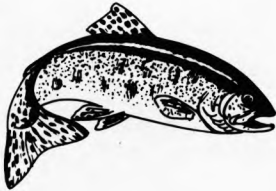
Approximately 15 percent of the stocking is made up of brook trout. These fish are stocked pre-season and in the early in-season stockings. Brook trout are eager feeders and are easily taken and as a result they constitute a high percentage of the early season catch. The remainder, about 30 percent of the total are made up of rainbow trout. While some rainbows are stocked in the larger streams most of these fish are stocked in lakes and ponds. Rainbows are not active early season feeders. They become most active in mid-May as the waters warm up and as a result they make up a large part of the trout fishermen catch in late May, June and early July. These three species of trout are used to provide a balanced stocking which will produce the best sustained fishing.

(Cont. on page 10.)

Fishing At Quinebaug

Fishing allowed at a State hatchery?!?
Correct.

Public fishing ponds at the Quinebaug Valley Hatchery in Plainfield reopened on March 5th. These ponds are open on weekends and holidays through June 12th.



Permits should be obtained in advance and are available only in the Hartford office of the Fish and Water Life Unit, Room 255, of the State Office Building, Hartford, Ct. 06115. If there are any vacancies at the start of a fishing period, permits for these vacancies are issued on a first come first served basis by the patrolman at the ponds. Vacancies are not filled until 15 minutes after the start of a permit period. Permit holders who do not show up at the public fishing ponds within the first 45 minutes of a permit period lose their permit privilege, and these vacancies are filled on a first come first served basis.

The fee for fishing the ponds is \$1.00 for a three hour period or for any part of a three hour period. The fee is collected at the ponds, not at the Hartford office.

From March 5 through April 30 there are three permit periods: 8:00 a.m. to 11:00 a.m., 11:30 a.m. to 2:30 p.m. and 3:00 p.m. to 6:00 p.m. From May 1 through June 12 there will be four permit periods: 6:30 a.m. to 9:30 a.m., 10:00 a.m. to 1:00 p.m., 1:30 p.m. to 4:30 p.m. and 5:00 p.m. to 8:00 p.m.

The construction of the settling basins to handle the hatchery effluent is expected to start sometime in April. This construction work will be in the immediate area of the public fishing ponds. Since heavy equipment and materials will be stored in close proximity to the ponds, all use of these ponds by the public will be stopped when the contractor moves onto the site. A public notice will be issued at least two weeks prior to the start of construction to reference the closure of the ponds and cancellation of outstanding permits.

The regulations governing the use of these ponds is as follows: An angler is eligible for only one permit a day. In the fly fishing pond anglers are limited to the use of one fly with a single barbless hook. In the lure pond anglers are limited to one lure equipped with a single barbless hook. Bait fishing is prohibited. An angler may catch and release any number of fish; however, the creel limit is one fish, and as soon as one fish is kept the angler must stop fishing.

Juveniles under 16 years of age must have a permit, and only one juvenile per licensed adult over 21 years of age is allowed. Juveniles must fish in the same pond as the licensed adult whom they accompany.



One of the two public fishing ponds at Quinebaug. In 1975 2,386 fishermen tried their luck here. The trout caught ranged from 10" to over 25", averaging 2 lbs. each.

Each of the two-acre ponds is stocked periodically to maintain a population of approximately 1,000 trout, many as large as six to seven pounds. It should be pointed out that, although a very large population of trout is maintained in each pond, many fish have been caught and released at least once and at times even expert anglers have difficulty catching fish.

Such was not the case on March 5th and 6th, however. John Goddard of Chaplin, John Schumansky of Willimantic and Bill Wilczek of New Britain all took rainbow trout measuring 26 inches. Quinebaug hatchery ponds that weekend yielded 11 trout over 20 inches in length.

Good luck!

DEP Citizens' Bulletin Supplement

Public Hearing Notices

Water Resources

May 4, 1977 - 10:00 a.m.

Meeting Room
East Lyme Town Hall
108 Pennsylvania Avenue
East Lyme, Connecticut

Purpose: To request a permit to maintain 9 cubic yards of dredged material and the placement of 3 cubic yards of backfill in a tidal wetland in East Lyme.

Petitioner: Kent and Joan
Banning
East Lyme, Conn.

May 10, 1977 - 7:00 p.m.
Bedford Junior High School
Westport, Connecticut

Purpose: To request a permit to construct a portion of a roadway over tidal wetlands in Westport.

Petitioner: Estate of J.V.
Kenneth Bradley
Westport, Conn.

Water Compliance

April 19, 1977 - 1:30 p.m.

Room 1
122 Washington Street
Hartford, Connecticut

Purpose: To request a permit to discharge 30,000 gallons per day of sanitary sewerage to the Brookfield Municipal Sewer System.

Petitioner: Sandy Lane
Village Assoc.
Brookfield, Conn.

April 26, 1977 - 10:00 a.m.

Room 1
122 Washington Street
Hartford, Connecticut

Purpose: To request a permit to discharge 25,050 gallons per day of domestic sewerage to sanitary sewers in Waterbury.

Petitioner: Gallagher &
Gallagher
Waterbury, Conn.

April 27, 1977 - 10:00 a.m.

Room 1
122 Washington Street
Hartford, Connecticut

Purpose: To request a permit to discharge 1,920 gallons per day of film processing wastewater to the MDC sewer system in Hartford.

Petitioner: Technichrone
Color
Hartford, Conn.

April 27, 1977 - 11:00 a.m.

Room 1
122 Washington Street
Hartford, Connecticut

Purpose: To request a permit to discharge 25,000 gallons per day of cooling water to Silver Brook in West Haven.

Petitioner: New Haven Water
Co.
New Haven, Conn.

Know Your Trout...(Here's Some Help).

BROWN TROUT (*Salmo trutta*)

GENERAL TONE OFTEN BROWNISH, FADING TO YELLOWISH ON BELLY.

FEW SPOTS ON TAIL.



BLACK AND RED SPOTS ON SIDES.
RED SPOTS SURROUNDED BY LIGHTER HALO.

Common Names: Brown trout, Lock Leven trout, Von Behr trout, German brown trout, European trout, Scotch trout and sea trout.

Life History: The brown trout was originally a native of Europe. It was introduced in this country in the 1870's and has been widely distributed since then.

Brown trout migrate into spawning areas in early fall and spawn from October to early December. Spawning takes place in riffle areas in spring-fed brooks, but often in deeper water than that used by brook trout. Stream residents may migrate only a few yards and lake or sea residents may migrate many miles to reach suitable spawning areas. Mature females average about 2,000 eggs.

The eggs are laid in gravel areas in nests or redds. The young hatch out in about 50 to 60 days and spend 25 to 30 days in gravel until they have absorbed the yolk sac.

Young brown trout feed on minute crustaceans and small aquatic insects. Larger fish feed on insects, crayfish and other fish.

The brown trout has become the logical successor to the brook trout in Connecticut waters and in much of the northern trout belt. This fish has the ability to withstand water temperatures in excess of 75°F. It can also withstand more pollution than the other species of trout. Brown trout rapidly acquire wariness to a much greater degree than the other trout and, as a result, can withstand heavier fishing pressure. This fish can be called the trout of civilization.

The brown trout reaches weights in excess of 10 pounds in some Connecticut lakes.

Common Names: Rainbow trout, steelhead trout, hardhead trout, coaster and kamloops.

Life History: The rainbow trout is a native of the west coast of North America from southern California to Alaska. This species has been introduced into suitable waters all over the world.

Taxonomists originally differentiated between the "sea-run" steelhead and the fresh-water rainbow. Both of these forms are now recognized to be a single species.

In general, rainbows, unlike the other trout, spawn in the spring. This time of spawning has been altered in hatcheries to provide a source of eggs in the fall. In most cases, the stocked rainbows raised from fall eggs revert to spring spawning, but occasionally in some Connecticut lakes the rainbows retain the fall spawning habit.

Rainbow trout are the most migratory of the trout and on the west coast of the United States, their spawning migrations may exceed 1,500 miles. The rainbow is less particular than other trout in its spawning habits and may spawn in streams that dry up in the summer. Mature females average about 1,500 eggs.

The young rainbows remain in the stream for varying lengths of time. Some may migrate to a lake after a few months, some after one, two or three years and some may remain in the stream for their entire life.

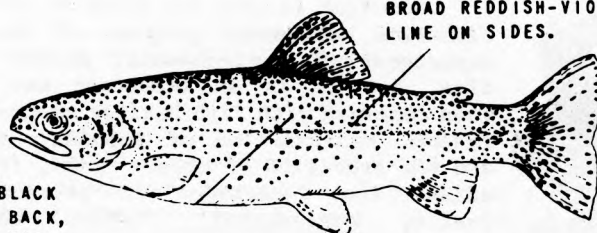
Young rainbows feed heavily on immature aquatic insects and on minute crustaceans. In Connecticut waters, fish play a relatively unimportant part in the rainbows' diet. In other states, fish may form an important part of the diet of larger rainbows. Insects form an important part of the rainbows' diet at all ages and sizes.

The rainbow trout reaches a maximum size of about eight pounds in some Connecticut waters, but fish larger than three pounds are rare.

(Cont. on next page.)

RAINBOW TROUT (*Salmo gairdnerii*)

BROAD REDDISH-VIOLET LINE ON SIDES.



MANY IRREGULAR BLACK SPOTS ON SIDES, BACK, DORSAL FIN, AND TAIL.

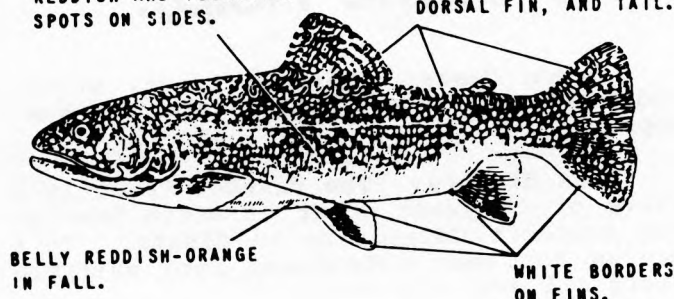
The eggs hatch in about 50 to 60 days, depending on the water temperature. The larvae remain in the gravel for about a month or until they have absorbed the yolk sac.

The young fry feed on the larvae of aquatic insects, on small aquatic insects and on minute crustaceans. Larger fish feed on aquatic insects, crayfish and other fish. The brook trout is the shortest lived of the trout common to Connecticut waters.

This trout is not adaptable to changing stream conditions. It is the most exacting of the trout family in its requirements. The brook trout does not do well in waters where the temperature exceeds 70°F., or where pollution is present. This trout can properly be called the trout of the wild or primitive areas. Though the brook trout is our only native trout, in general it is not suited to present conditions in most Connecticut waters.

The brook trout probably does not reach a weight much in excess of two pounds in Connecticut waters and even fish of this size are very rare.

BROOK TROUT (*Salvelinus fontinalis*)
REDDISH AND YELLOWISH SPOTS ON SIDES.
WAVY LINES ON BACK, DORSAL FIN, AND TAIL.



Common Names: Brook trout, speckled trout, squaretail, native trout and mountain trout.

Life History: The spawning habits of this fish are much like those described for the brown trout except that spawning often takes place nearer the headwaters and in shallower areas than those utilized by the brown trout. Mature females average about 1,500 eggs per fish.

Stocking (Cont.)

Logistically trout stocking is a major operation. It involves moving more than 300 truck loads of trout to more than 300 streams and nearly 80 lakes and ponds. Raising, moving and stocking more than 800,000 trout weighing approximately 330,000 pounds is no small undertaking but it's worth all the time and effort when a smile spreads across the face of the Connecticut angler as he hooks his first trout of a new season.

There are several in-season stockings on the major streams and the larger lakes and ponds. Stocking is generally completed by the last of May. After this date water temperatures have increased to the point where some mortality would be expected if fish were moved from cold hatchery waters to the warmer lakes, ponds and streams. Trout already in these waters have had an opportunity to acclimate slowly to changing water temperatures.

* * *

Stocking is only one phase of the fisheries management program of the Department of Environmental Protection, but it is an important one. When combined with fish habitat restoration, manipulation of populations and the provision of access areas, it allows the department to provide quality recreational fishing to thousands of anglers every year.



Fish Longevity

Most fish live fairly short lives. Bluegills, perch, muskies, and pike may live 10 to 15 years, but most die sooner. Other species almost always die before reaching the age of 10.

Also, as you may logically surmise, fish growth from year to year varies sharply, depending first on the species involved and second on water and food conditions. Smaller fish, such as bluegills and perch, tend to grow fastest during their first few years, while larger predatory fish continue to grow at a fairly regular rate through most of their lives.





written and illustrated
by
Penni Sharp

Your April Environment

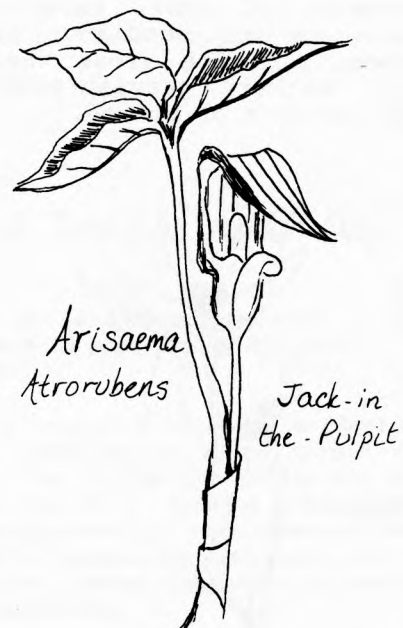
April is: Robins feed on suburban lawns...tree frogs chorus...marsh marigolds in bloom...salamanders on the move...warblers return...trees leaf out...a warming sun...phoebes nest under bridges...trillium bloom in the woods...rain...

During the month of April and the beginning of May, while the landscape takes on a greener hue and trees put out their pale, early leaves, the forest floor enjoys a brief and colorful show of wild flowers. These early bloomers inhabit our deciduous forests (forests comprised of trees which drop their leaves). It is important for these plants to have their blooming and some of their food storing accomplished prior to the time that the trees are in full leaf and are cutting off the supply of sunlight to the plants that grow on the forest floor. The ability of these plants to bloom early - some will flower before their own leaves appear - depends largely upon the growing season of the previous year. Photosynthesis, the process by which green plants manufacture food, occurs in the green leaves of the plant in the presence of sunlight. During the growing season, the chlorophyll in leaves must provide enough food for the plant as it grows and an excess of food which the plant can store for its unfolding the following spring. This is especially true for plants which die back completely during winter.

Different plants have different adaptations for the storage of food and with most herbaceous plants, these structures are found below the surface of the ground where the temperature remains more constant during winter. They can occur in the form of a bulb (composed of large, fleshy leaf bases), a corm (a short, thickened underground stem), a tuber (an enlarged subterranean branch), or taproot (a stout, tapering main root).

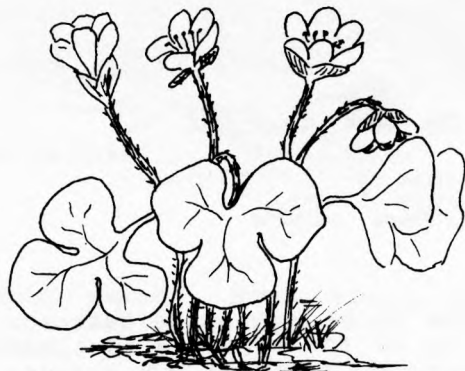
While it is imperative that you do not remove any of the spring wild flowers from their natural habitats to examine these structures, similar features are found on many of our cultivated plants and can be examined upon them. Bulb - daffodil or tulip, corm - cyclamen or gladiolus, tuber - potato, taproot - carrot or dandelion.

The first of the early bloomers in Connecticut is the Skunk Cabbage, a member of the arum (ARACEAE) family. It may bloom as early as February and prefers a wet habitat, growing in swamps or alongside streams. A mottled green and purplish hood covers the interesting flowering part of the plant. The flowers give off a musky odor which may seem offensive to some, but which serves the important function of attracting insects which aid in pollination.



Another member of the arum family is the Jack-in-the-Pulpit. Three-parted leaves shade the flower which consists of a green and brown striped hood, the "pulpit"

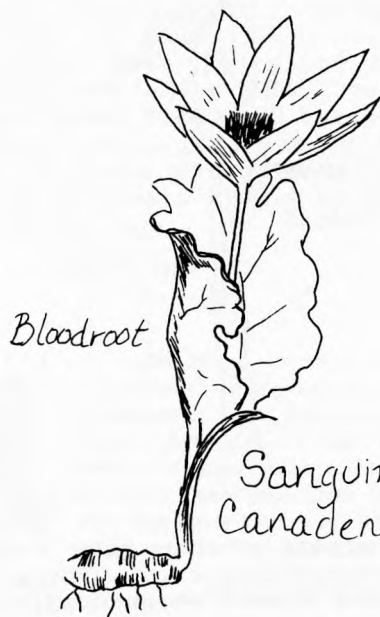
and a pale green stalk, the "jack." The true flowers occur at the base of the stalk and in the fall become clusters of bright red berries. The Indians used the corm of this plant as a staple food.



Hepatica Americana

The Hepatica, or Liver-leaf (HEPATICA AMERICANA) blooms early. Because its leaves are evergreen, it does not need to store as much food as plants which lose their leaves. The delicate flowers may appear pinkish-white or blue and the 6 to 10 "petals" are actually sepals. The name Liver-leaf comes from an old belief that the shape of the leaf resembled a liver. The leaves were even tried as a cure for liver diseases.

An aptly named spring flowering plant is Dutchman's Breeches (DICENTRA CUCULARIA). The creamy white flowers hang from their stalks like miniature pantaloons on a line. The leaves and flower stalks arise from a cluster of small tubers. These flowers grow in our woodlands preferring rocky slopes. In the areas where it is found, its feathery grayish-green leaves cover large patches of ground.



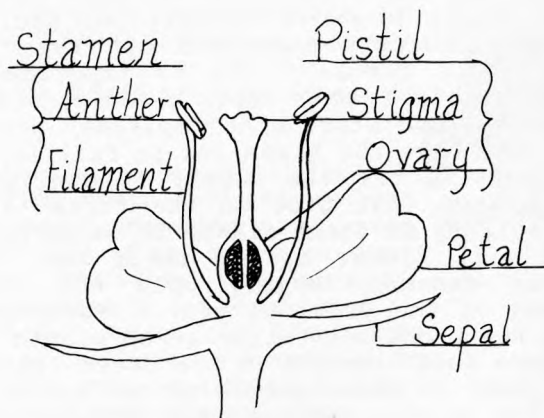
Bloodroot

Sanguinaria Canadensis

A member of the poppy family, the Bloodroot (SANGUINARIA CANADENSIS) derives its name from the orange-red juice of the thick rootstock. Indians used the sap for medicinal purposes as well as to color their faces. As the plant emerges from the ground, the leaf envelops the flower stalk which is topped by a large delicate white blossom of 8 to 12 petals. It grows in rich woods throughout the state.

Perhaps the wild flower most commonly associated with the arrival of spring is the violet (VIOLACEAE). There are many species of this plant (over 40 in the northeast!) and it grows throughout Connecticut. Many species of violets have an interesting adaptation that insures the production of seeds. In addition to the showy flowers, these violets also have bud-like flowers which never open. These flowers are self-pollinating and are cleistogamous or closed. Both types of flowers produce seeds which are stored in capsules for dispersal in the fall.

These are but a few of the many unique and colorful wild flowers of the woodlands in the spring. Now is the time to enjoy these flowers in their habitat. DO NOT PICK THEM. if you wish to take a closer look at the structure and parts of a flower, examine one from your garden or lawn. Using a daffodil or tulip, try to find the parts in those flowers that correspond to those labeled in this illustration:



Solar Energy Meeting

The next meeting of the Solar Energy Association of Connecticut is scheduled for Sunday, April 24, 1977 at 3:00 p.m. in the auditorium of the Science Center at Wesleyan University, Middletown, Connecticut. The meeting will feature a panel discussion on "Solar Heated Homes." The meeting is being co-hosted by Wesleyan University's College of Science in Society. For further information contact Dr. K. Raman (203) 649-9122 or John Ochwat (203) 264-0848.

Arbor Day Set For April 29th

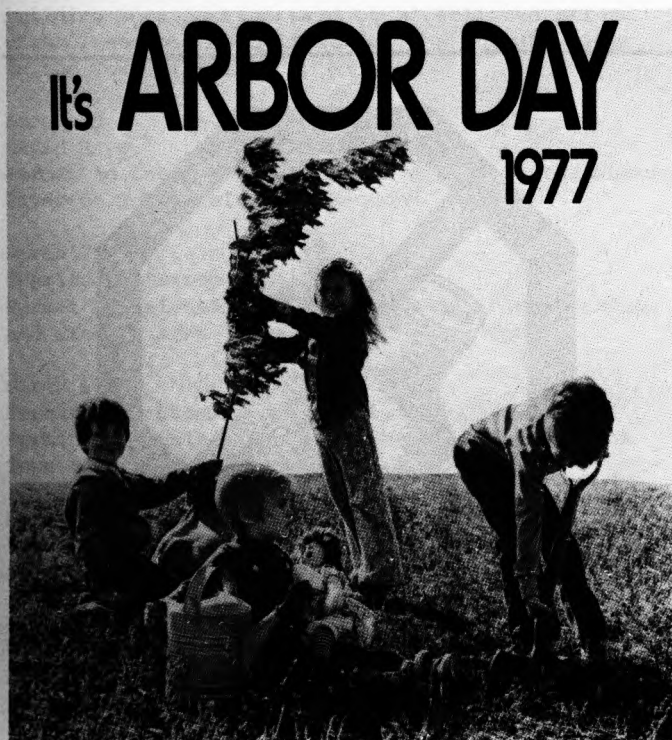
The practice of setting aside a day each year to encourage the planting of seedling trees is observed today in virtually all states.

It was introduced in 1872, in Nebraska, because of growing concern about rapid deforestation in many parts of the United States.

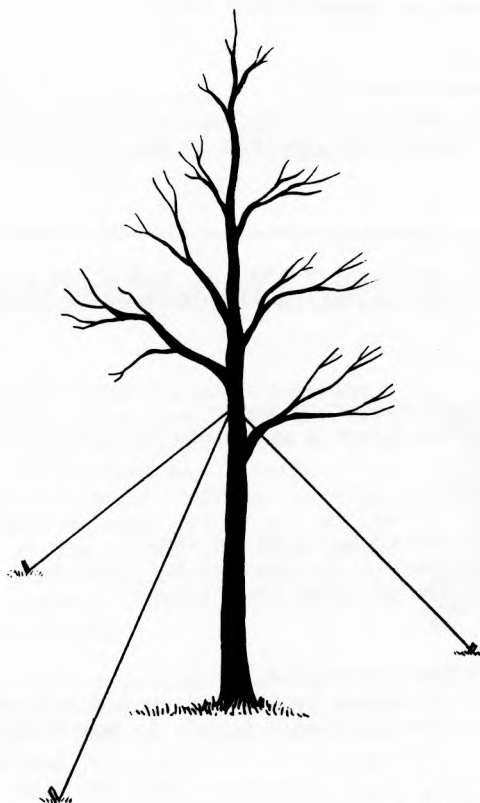
The American Forestry Congress, the National Education Association, agricultural societies and a number of other organizations and individuals worked together to promote the adoption of tree planting days in all states. Connecticut, one of the first states to introduce scientific forestry, has observed an Arbor Day annually since 1886.

While Arbor Day was designed to replenish our woodlands, beautify the communities in which we live and encourage practical forest conservation measures, it serves today, in addition, as a reminder of the importance of all environmental protective efforts.

The uniqueness of Arbor Day was summed up by its founder, J. Sterling Morton. In an address in 1887, he said, "Arbor Day...which has already transplanted itself to nearly every state in the American Union and has even been adopted in foreign lands...is not like other holidays. Each of those reposes on the past, while Arbor Day proposes for the future."



That statement is as true today as it was in 1887. Perhaps even more so, for with the growing ecological concern now being expressed, America will continue to see a re-awakening interest in the "Conservationist's Holiday."



Plant A Tree For Arbor Day

This is an appropriate time to plant a tree in practically all parts of the U.S.



For a bare-root tree dig a planting hole wide enough to receive the roots spread in a natural position. For balled trees, dig the hole two feet wider than the ball. Set the tree at the same level it previously grew. If soil removed from the hole is poor, try to replace it with good soil brought from another site. Leave a saucer-like basin around the trunk for watering.

If the site has poor drainage, you might dig a deep hole several feet away, fill it with rocks and lay drain tile to it from the tree site. In heavy clay, it helps to set the tree on the high side and fill in around it with good soil.

Permits Issued

Feb.-March, 1977

Air Compliance

February 1
Mobil Chemical Co.
Permit to construct a plastic film orientation line in the Town of Stratford

February 1
Presidential Realty
Permit to operate two 125 h.p. natural gas-fired Superior Combustion boilers in the Town of New Haven

March 1
Beirsdorf Inc.
Permit to construct a 150 h.p. and a 300 h.p. Johnston Brothers Boiler in the Town of South Norwalk

March 7
Combustion Engineering Inc.
Permit to construct a watertube boiler in the Town of Windsor

March 9
Mirror Polishing and Plating Inc.
Permit to operate an Aerovent Air Preheater at the MP&P plant in the Town of Waterbury

March 9
New Haven Public Schools
Permit to construct two boilers and a hot water heater at Central Middle School in New Haven

March 9
City of Shelton
Permit to construct a pathological incinerator at the Dog Pound on Riverdale Avenue in the Town of Shelton

March 9
Philips Medical Systems
Permit to construct a Cleaver-Brooks boiler in the Town of Shelton

March 15
Automatic Comfort Corp.
Permit to operate a gasoline truck loading rack with thermal oxidizer in the Town of East Hartford

March 15
Connecticut Natural Gas Corp.
Permit to construct a liquefied gas vaporizer in the Town of Rocky Hill

March 15
Sawmill Brook Racing Association Inc.
Indirect Source Permit to construct for a sports complex in the Town of Middletown

March 24
Columbia Precast Products, Inc.
Permit to operate a pneumatic fill pipe and silo with a fabric filter dust collector in the Town of Columbia

March 24
Hitchcock Chair Co.
Permit to operate 3 boilers at the Company's plant in New Hartford

March 24
Winsted Memorial Hospital
Permit to construct a boiler in the Town of Winsted

Water Compliance

February 28
The National Chromium Co. Inc.
Permit to discharge 36,000 gallons per day of treated plating wastewater to the Quinebaug River Watershed in the Town of Putnam

February 28
Olin Ski Co. Inc.
Permit to discharge non-contact cooling water into the Westfield Brook Watershed in the City of Middletown

February 28
Stanchem Inc.
Permit to discharge polymer production wastewater to the Mattabassett District sanitary sewer system

March 14
Rayco Metal Finishing, Inc.
Permit to discharge treated metal finishing/plating wastewaters into Connecticut River Watershed in the City of Middletown



60 billion (60,000,000,000) no deposit - no return bottles and cans for beer and soda are sold annually. That is enough to make 10 stacks of empties to the moon every year.

Permits Issued (cont.)

March 16
Reb Industries Inc.
Permit to discharge 90 gallons per day of caustic cleaner rinsewater into Hubbard Brook Watershed in the Town of Glastonbury

Water Resources

March 3
Harold H. Orzech
Permit to conduct a regulated activity riverward of an established encroachment line in the Town of Portland

March 8
Town of East Haven
Permit to construct 7,500 linear feet of sanitary sewers within designated inland wetlands and watercourses in the Town of East Haven

March 8
Edward Sciongay
Permit to install a culvert and construct a driveway in a wetland in the Town of Shelton

March 22
Mehdi S. Eslami
Permit to fill a wetland area to construct a parking lot in Waterbury

March 23
Ernest Rau
Permit to construct a two story addition on a building located riverward of established stream channel encroachment lines for the Norwalk River in the Town of Wilton

March 29
David Hays
Permit to install and maintain a dock in the Thames River on Hobbs Island at Groton

March 29
Charles M. Salmon
Permit to maintain a bulkhead, ramp, float system and dredged area in Warehouse Point, Conn.

March 11
Forestville Fishing Club, Inc.
Permit to repair a dam on Eightmile River in the Town of Southington

March 11
Richard J. Zimmer III
Permit to construct or dam on an unnamed tributary to Porter Brook in the Town of East Hartford

March 14
Charles Honeychurch
Permit to fill a portion of a wetland for the construction of a one family house in Monroe

March 18
Richard N. Fiske
Permit to repair a dam on an unnamed tributary to Mill Brook in the Town of Cheshire

March 22
Connecticut Department of Transportation
Permit to rechannel approximately 180 feet of Umpawaug Pond Brook in the Town of Redding

Permits Denied

Water Resources

February 22
J&D Kasper & Associates
Permit denied to conduct regulated activities within an inland wetland in the Town of Monroe

Have you started a compost pit?

Begin a compost pit this spring - and a year from now the composted material will be ready for use in your flower and vegetable gardens, or around your shrubs. If you are not quite ready to make use of all of the compost at the end of the first year, start a second pit during the spring, and you never will lack for compost to enrich your soil.



Compost provides one of the easiest and cheapest ways to increase fertility. Too, a compost pit is a handy place to get rid of garden waste - dead foliage, vegetable tops and peelings, grass clippings, and any other plant material that will rot quickly.

Dig your pit three to four feet deep and as wide and long as your needs (and waste supply) dictate. Line the sides with boards.

Put in a six-inch layer of plant material. Sprinkle this layer with lime and 5-10-5 fertilizer - one cup of each to a square yard of litter.

Add a thin layer of soil to keep the litter in place. Wet down thoroughly.

Make the center lower than the sides, to allow rainfall to drain into the litter. Cover with plastic so the compost will not dry out. Water as often as necessary to keep the compost moist.

Turn the pit contents top to bottom after three or four months.

Rather than go to the trouble of digging a pit, some gardeners heap up compost with a wire or board enclosure around it.

Legislative Ups & Downs

There is bad news and good news regarding environmental legislation being considered during the 1977 Session of the General Assembly.

By March 31 three key pieces of legislation submitted by DEP were defeated and the controversial Bottle Bill's fate remained uncertain. Boxed during the final week of March were:

SB 1195 AN ACT CONCERNING INSPECTION OF MOTOR VEHICLE EMISSIONS AND SAFETY

SB 1419 AN ACT CONCERNING INSTRUCTION IN ENVIRONMENTAL STUDIES

SB 1420 AN ACT CONCERNING INSTALLATION OF AIR POLLUTION CONTROL DEVICES ON HEAVY-DUTY POWERED MOTOR VEHICLES

Although the Bottle Bill (HB 5022 AN ACT CONCERNING RE-USABLE BEVERAGE CONTAINERS AND A BAN ON PULL-TOP CANS), was received favorably by House members of the En-

vironment Committee on March 25th by a vote of 15-8, it must still be voted on and passed by both the House and Senate. If the House passes the legislation, then nineteen Senate signatures will be needed to petition it before the Senate floor.

On the brighter side, DEP's HB 7934 AN ACT CONCERNING THE CONNECTICUT ENVIRONMENTAL POLICY ACT (CEPA) received a joint favorable vote by the Environment Committee and is now ready for vote by the General Assembly.

Editor's Note

Next month's *Citizens' Bulletin* will contain a complete update on all environmental legislation raised from Committee for consideration this Session.

Copies of all bills for this Session are available from the Bill Room at the Capitol, or from your legislator. For additional information on the current status of bills, call the Legislative Information Service at 566-7050.

DEP citizens' bulletin

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